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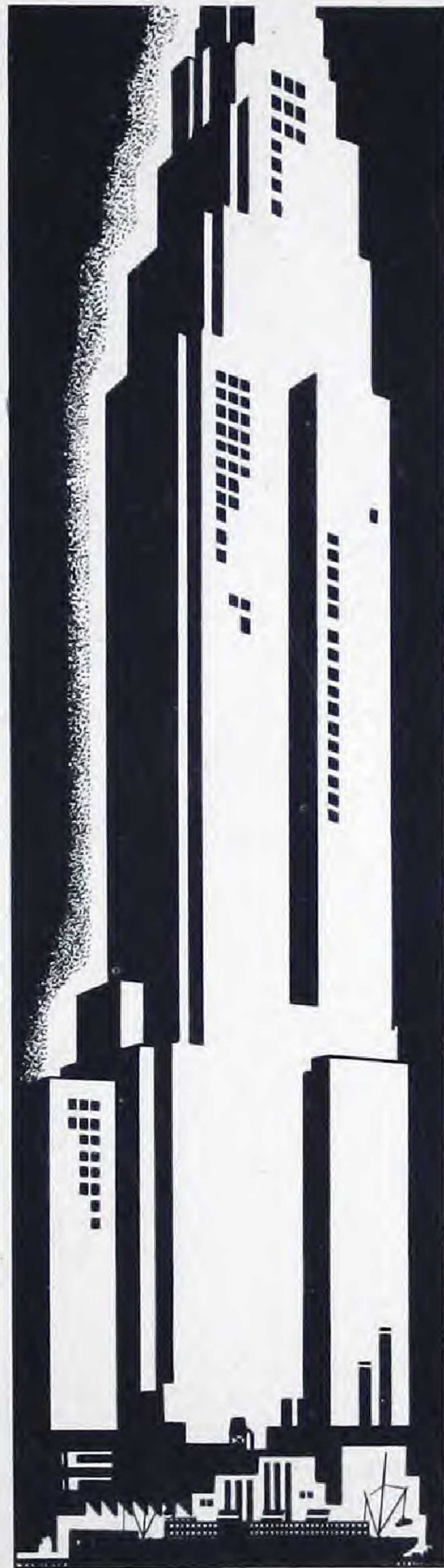


IRITE

stokers



CATALOG



FIRITE STOKERS

Hoffman Combustion Engineering Co.
Detroit



Jerome A. Hoffman, M. E.

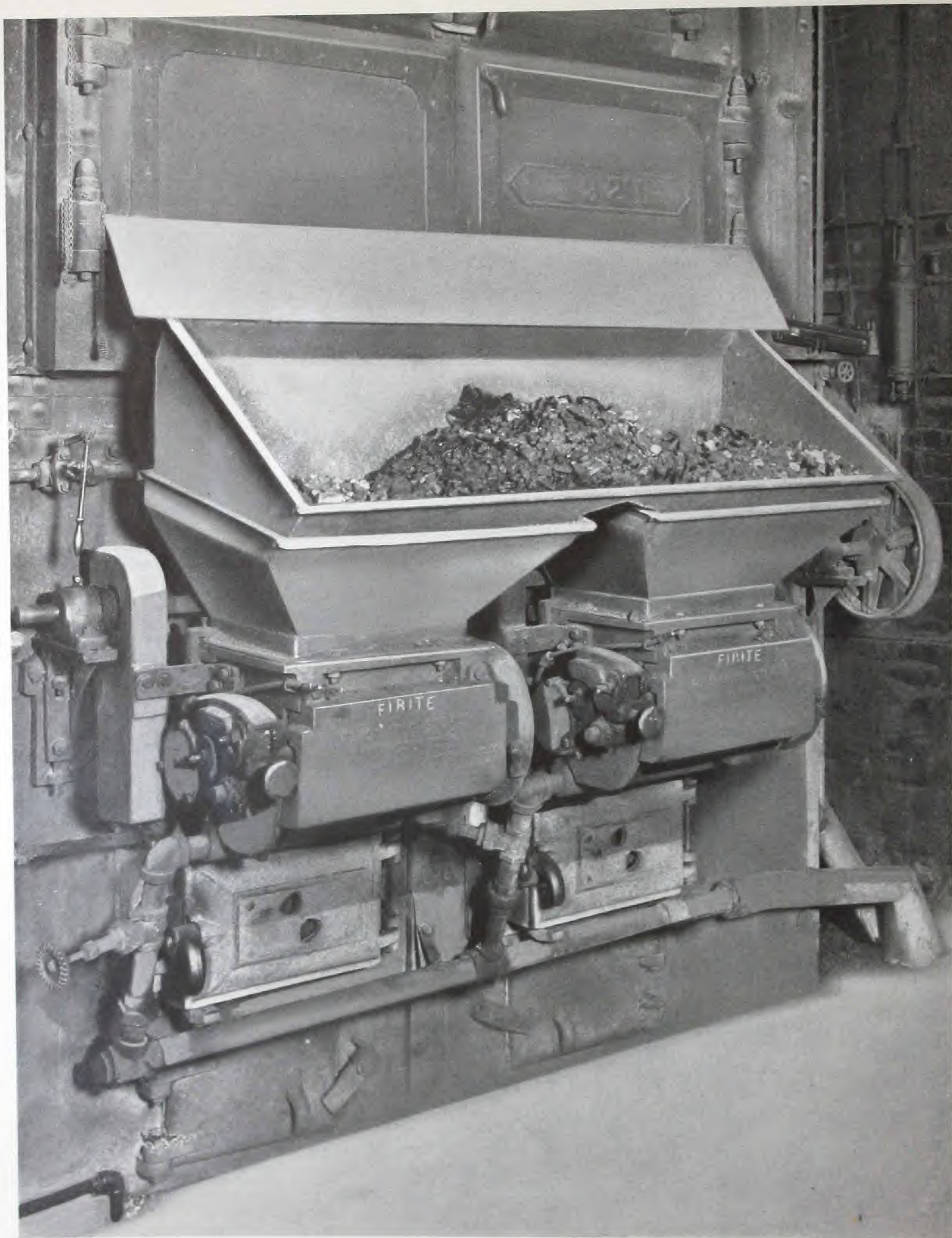


FOREWORD

We feel that the high standards of living enjoyed in the past must not be sacrificed, and that rigid economy must be practised in the production and distribution of goods and services essential to this condition, so that it may still be available in spite of the reduced national income.

The purchase at this time of cost-reducing and waste-recovering equipment is vital; to which end I commend to you the following pages.





A TYPICAL FIRITE STOKER INSTALLATION

A STOKER Engineered *for* Modern POWER PLANT DEMANDS - - -

The presentation of FIRITE STOKERS and the Hoffman Combustion System to a national market comes to you with a long and wide background of proven merit—machinery built to the finest mechanical precision, and castings in keeping with modern metallurgy.

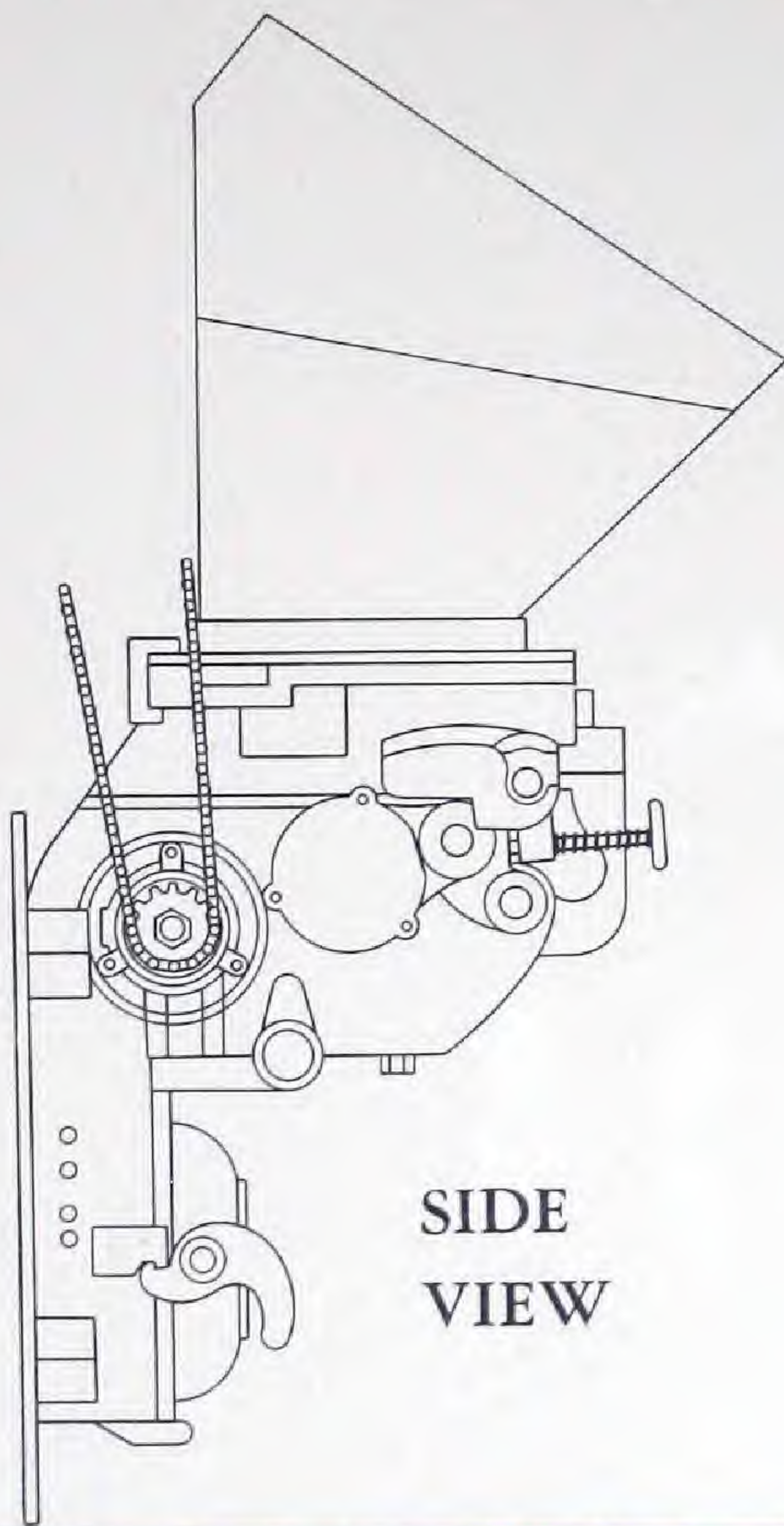
This mechanical excellence results in maintenance being so low that no service charges have ever been billed to one of our customers. The tuyere plates are practically indestructible; therefore no boiler outage for replacements. The balanced heat condition constantly maintained throughout the entire combustion chamber contributes to longer life for tubes and refractories.

FIRITE STOKERS in your plant (wherever located) permit you to burn locally mined coal, because FIRITE will carry peak loads, at high efficiencies, with any coal mined. No clinkers result, regardless of combustion rates or fuel characteristics.

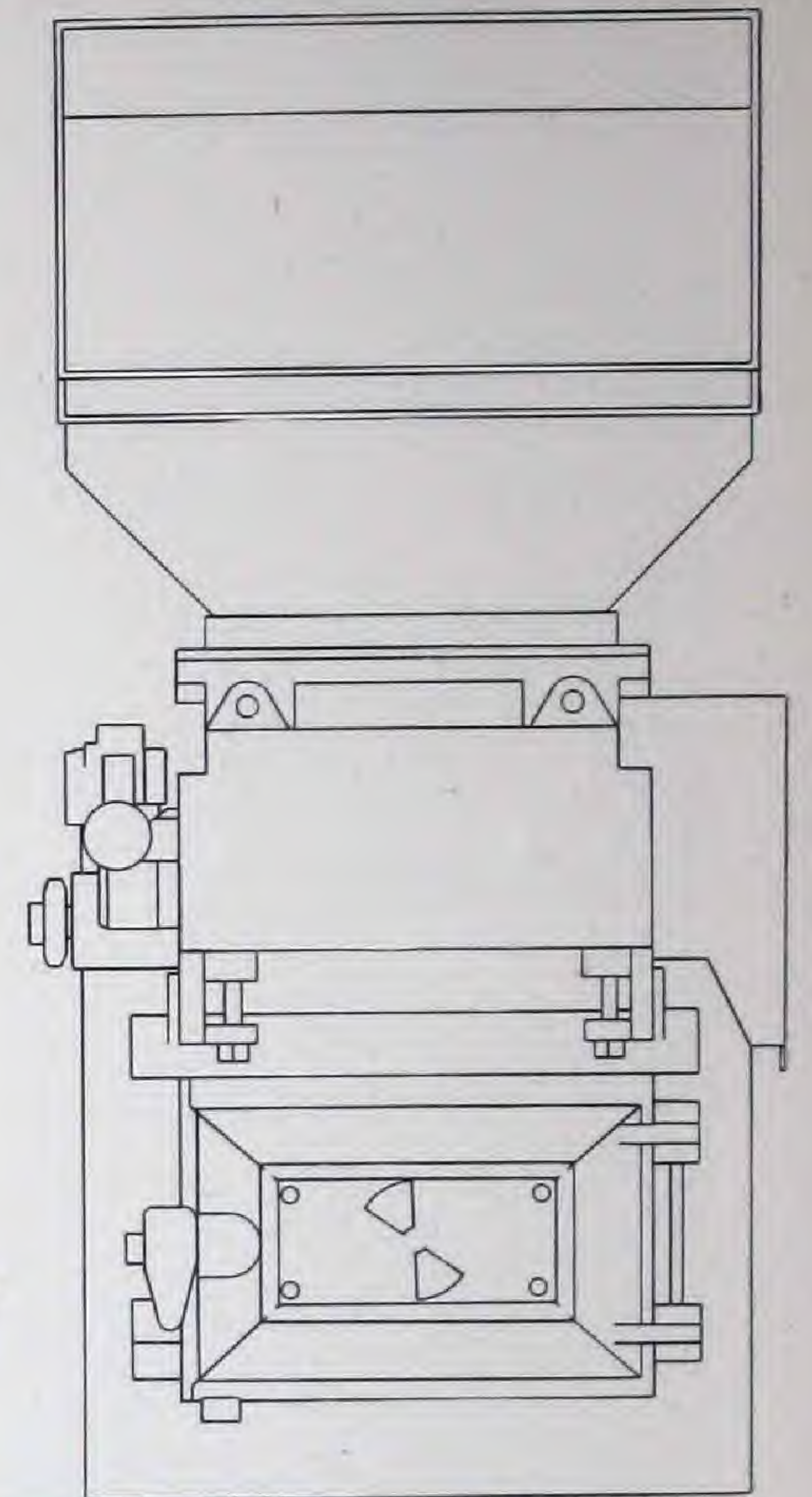
There is no arching in the fuel bed at high ratings, banking losses are reduced to an absolute minimum, there is quicker response to increased steam demand, instant adjustment to fluctuating loads.



OUTLINE OF TYPE "A" FIRITE COAL DISTRIBUTING UNIT

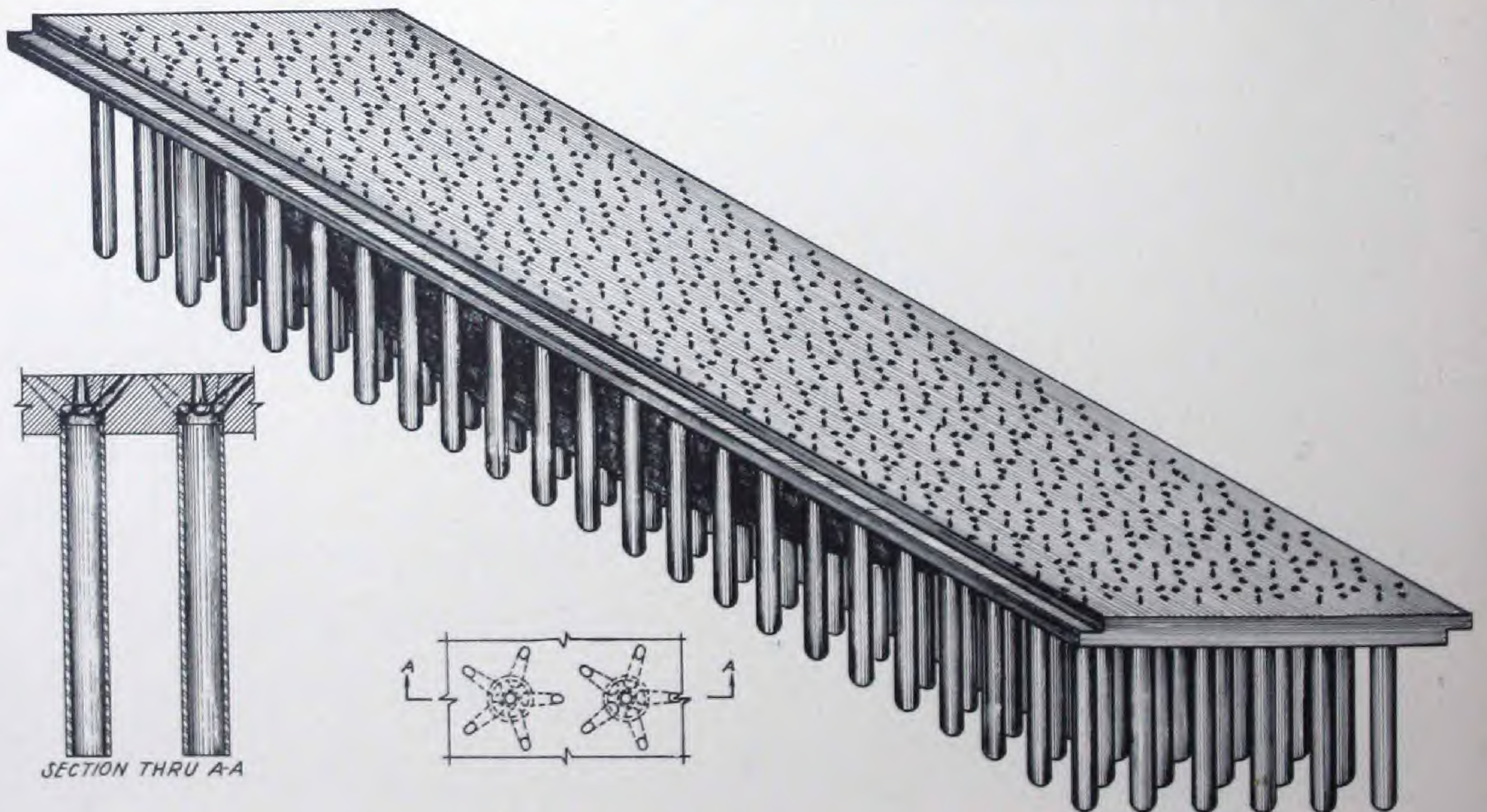


SIDE
VIEW



FRONT
ELEVATION

SECTION THROUGH AA *and* HOFFMAN PATENTED TUYERES



Plant additions, new equipment, more business, more generators, all increase steam demands. FIRITE STOKERS will pick up this additional load without material changes in present settings, or addition of more boilers in the great majority of cases.

FIRITE is not merely a coal feeding device; but a complete combustion system introducing slack sizes of coal into the furnace, and so synchronizing the air and fuel supply as to achieve the nearest to theoretically perfect combustion yet attained, obtaining higher efficiencies with lower first costs, and with maintenance reduced to the negligible factor.

While FIRITE is adapted to boilers from 70 to 700 H.P., the increase in capacity is developed by the addition of standard units, allowing approximately 70 per cent of the equipment to be salvaged in larger boilers, when, and if desired.

Ninety per cent of all FIRITE installations are made to replace other fuel burning devices; but no FIRITE STOKER has ever been replaced.

We will be glad to work in conjunction with your consulting engineers relative to any present or future steam problems without obligation.



BEVERIDGE PAPER CO. Burns Local Coal with 25 per cent Saving

After completely equipping their boilers with FIRITE STOKERS, this modern Indianapolis paper mill was able not only to burn local Indiana coal with satisfactory results at a twenty to twenty-five per cent saving over the higher grade that was formerly necessary to carry their overload, but saved the cost of the installation of a new power plant by taking advantage of the increased steam production facilities of FIRITE STOKERS.



The Beveridge Paper Company
Manufacturers



Indianapolis, Ind.

December 3-1930.

Hoffman Combustion Engineering Company,
410 Ford Bldg.,
Detroit, Michigan.

Gentlemen:

We are pleased to advise you that your erector has just completed the installation of our fourth and last Firite Stoker which is on the line and operating satisfactorily. All of our boilers are now being operated with Firite Stokers and we expect to effect a very considerable saving in the cost of producing power. Repeated tests on our first installation show a reduction in our coal consumption from twenty to twenty five per cent. Whereas, in the past it was necessary to burn an Eastern Kentucky coal to carry our heavy overload, we are now burning an Indiana Coal with very satisfactory results.

We are carrying constantly 200% rating on our boilers which are over fifteen years old and at times they are carrying 250% rating. Except for the safety factor there seems to be no limit to the rating which can be obtained. Even under full load our stack shows only a light colored smoke, except during ash cleaning period. The matter of cleaning in on the Firite stoker does not prove to be as complicated in operation as it appeared when we first considered the purchase of the stokers. Numerous analysis of the ash shows practically no burnable material left in it.

We are very much pleased with the equipment and will be glad to recommend it to anyone who cares to write us.

Very truly yours,

THE BEVERIDGE PAPER COMPANY.
R. W. Ross
Purchasing Agent.

RWR:VMD



BAY CITY High School Shows Large Saving with **FIRITE STOKERS** - - -



CENTRAL HIGH SCHOOL and JUNIOR COLLEGE
BAY CITY, MICHIGAN

PHILIP M. KREN PRINCIPAL

Jan. 17, 1930

Hoffman Engineering Co.,
 Detroit, Mich.

Gentlemen: You may advise those interested that the two Firite Stokers in the Central High school have now been in service since November 1929 and have given us the best of service, low steam costs, and unfailing amount of steam both for heat and hot water. We have had no maintenance expense. The Stokers have operated economically and have shown a saving of 260 tons over the other Stokers previously operated.

Very Truly Yours,

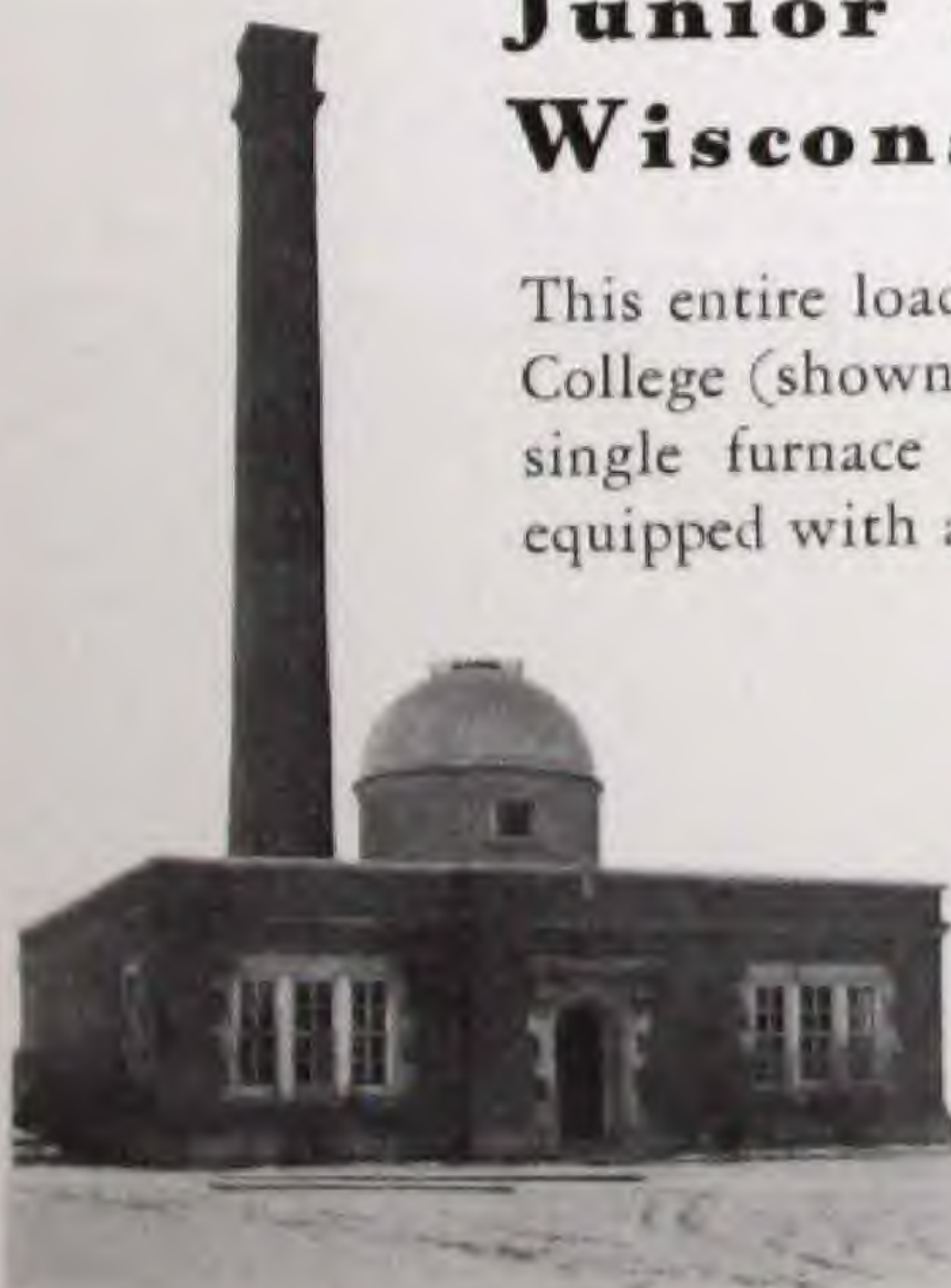
W. D. Parke
 Chief Engineer.



The power plant in the above school has four 250-horsepower lateral drum water tube boilers. Two years ago, two of these boilers were equipped with FIRITE STOKERS, since which time, the other two boilers have never been on the line.

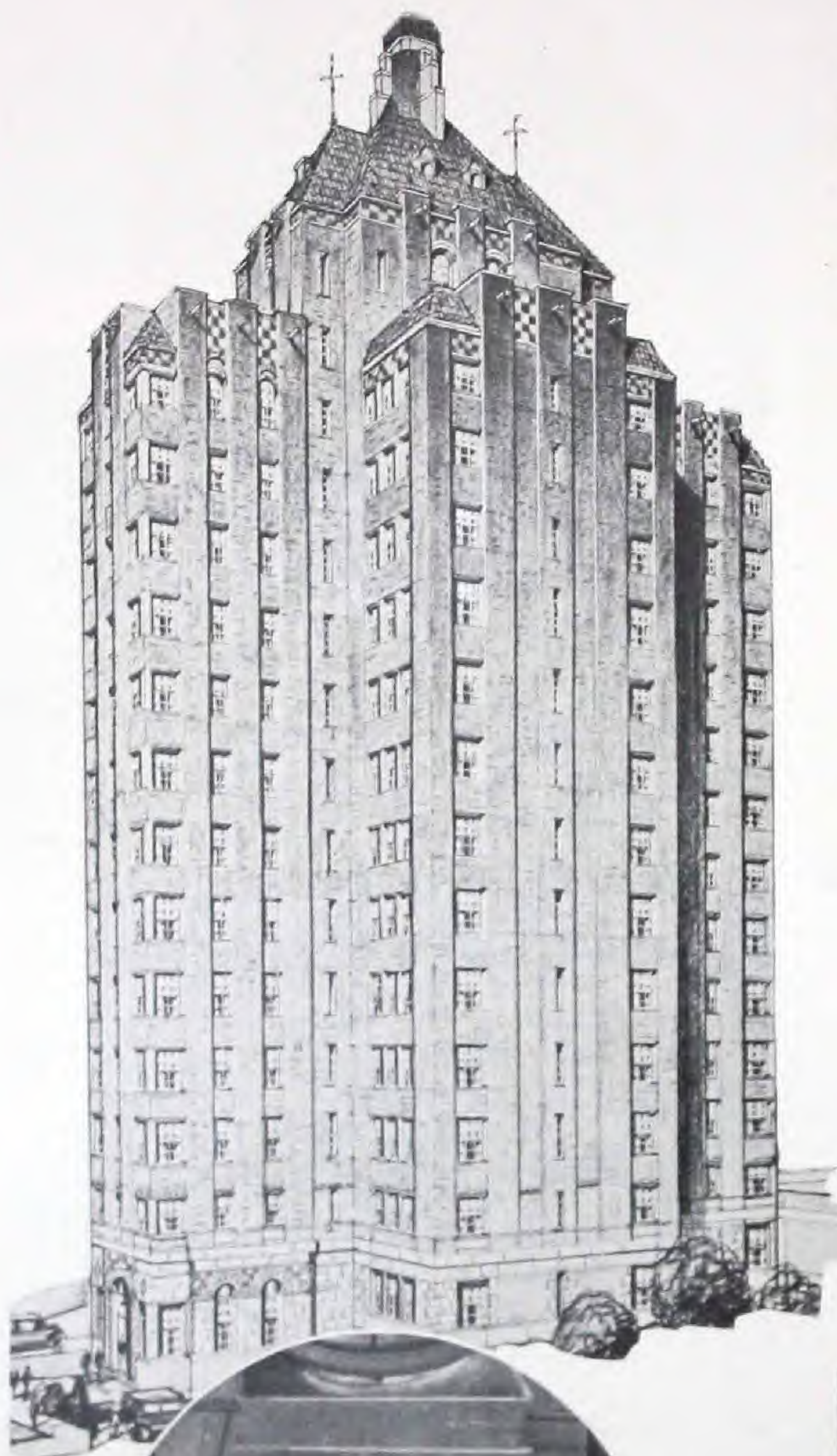
FIRITE Installations at Handy Junior School and Wisconsin College

This entire load of the Wisconsin State Teachers' College (shown below) has been carried with one single furnace dry back Scotch Marine boiler, equipped with a FIRITE STOKER.



In the Handy Junior High School, Bay City (above), FIRITE STOKERS applied to one 150-horsepower HRT boiler produced steam in unlimited quantities with remarkable economy.

Apartment House Can Use Cheap Coal *with* **FIRITE**---



The modern apartment requires a steam plant that will deliver steady, unfailing uniformity of heat throughout the building. The Kean apartments have found that FIRITE STOKERS are sufficiently flexible for the varied requirements of changing weather conditions and that cleaning periods are never less than twelve hours apart. The ability of FIRITE STOKERS to burn any grade of coal has made a decided operating economy.

CHARLES NOBLE
ARCHITECT
UNITED STATES MORTGAGE BOND BLDG.
DETROIT

January 17, 1931.

The Hoffman Combustion Engineering Co.,
410 Ford Building,
Detroit, Michigan,

Gentlemen:

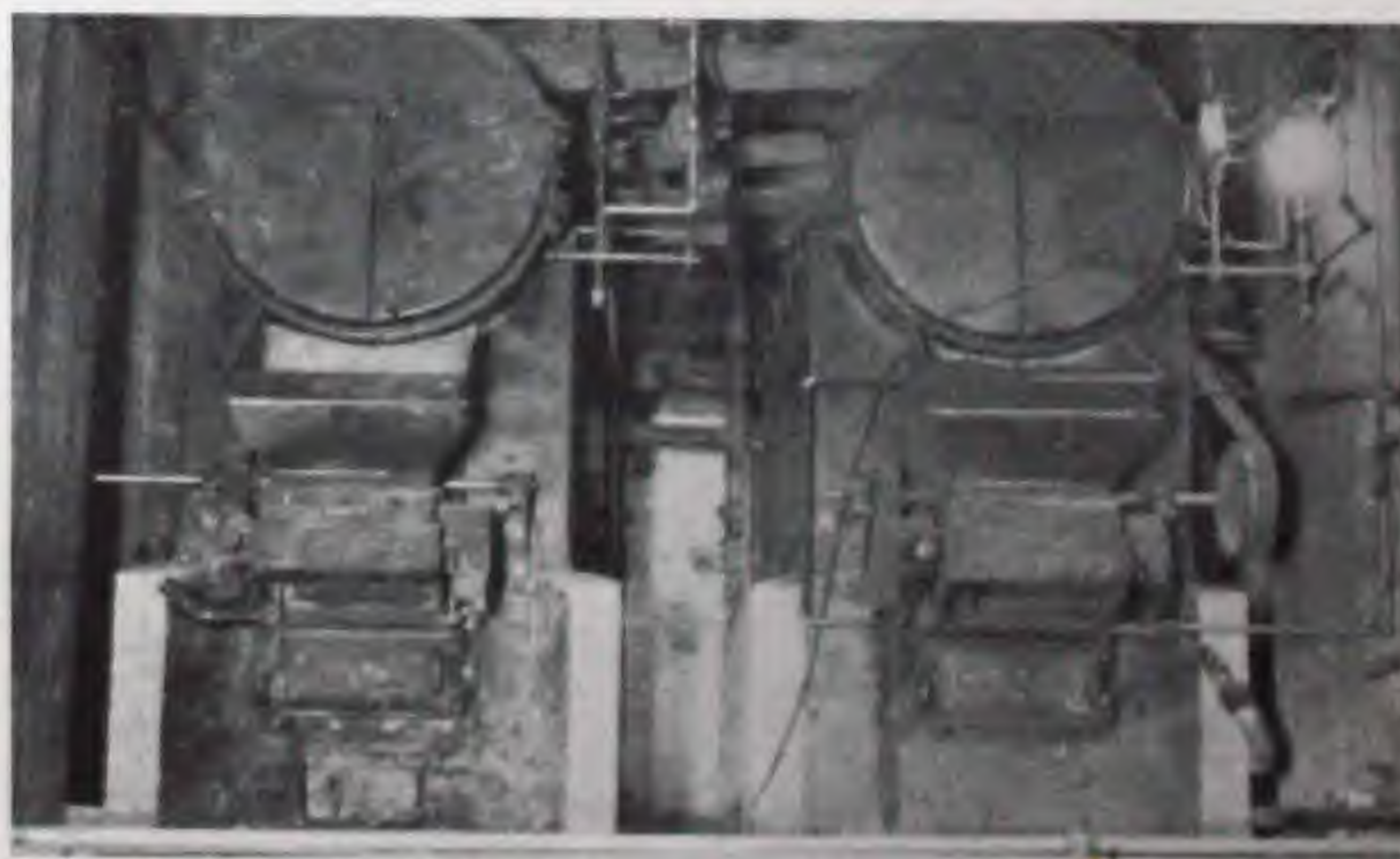
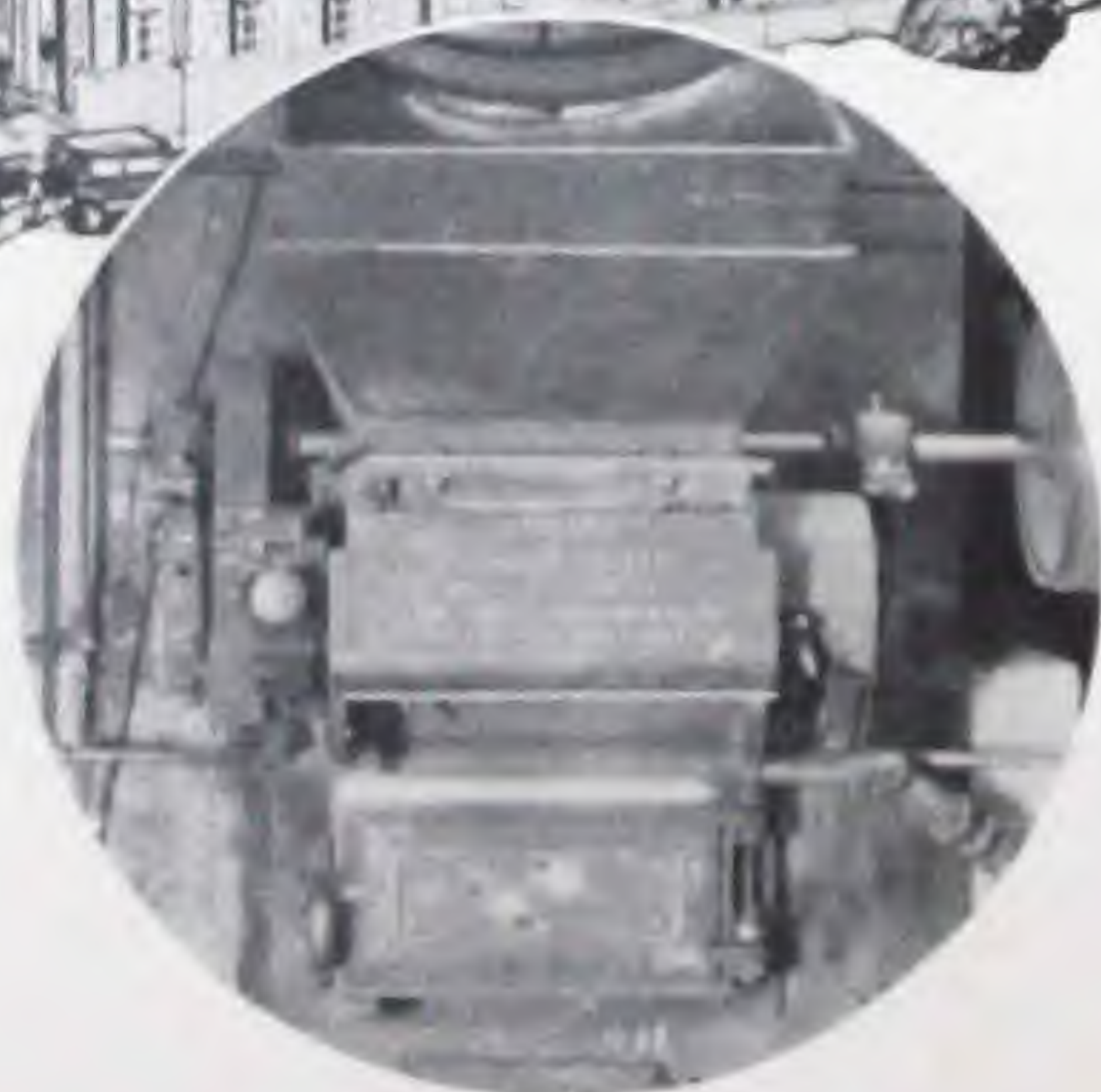
The stokers which you installed in the Kean Apartments, 8915 E. Jefferson Avenue, Detroit, Michigan, have been in operation now for some time. Everyone concerned is entirely pleased with their performance.

They are not only very efficient from the operating standpoint but present a very neat appearance, taking up the minimum amount of space in the boiler room. They are very quiet in operation and seem to be eliminating the smoke almost completely, even though we are using a very cheap grade of mine run coal. We have had several comments in regard to the automatic control. It seems to be working perfectly.

Yours very truly

Charles Noble
CHARLES NOBLE, Architect

CN
NV



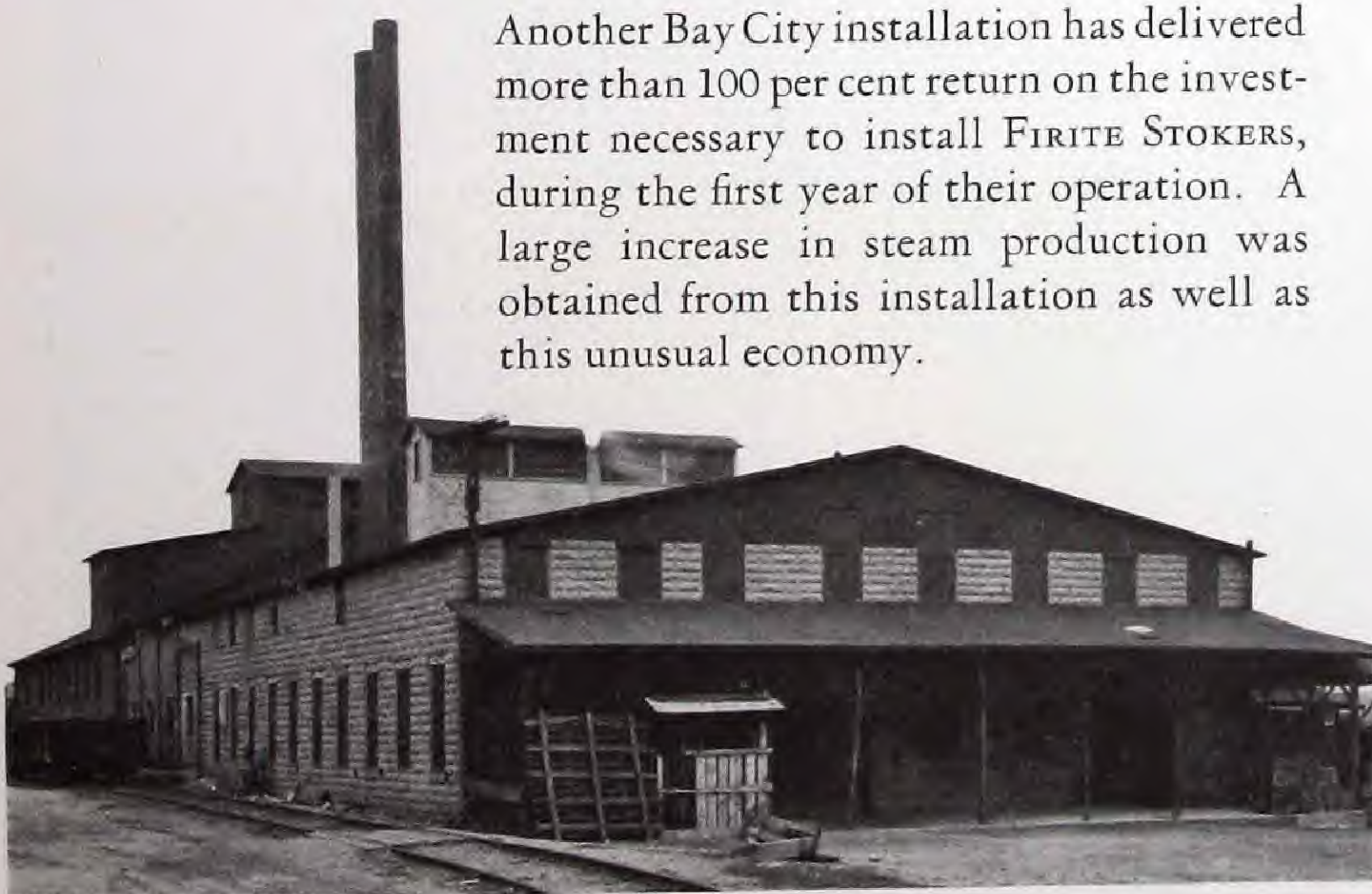
SEIDEL CREAMERY Finds Satisfaction with FIRITE---

In the creamery industry, FIRITE STOKERS have testified to their economy and efficient operation in the model plant of the Seidel Creamery in Bay City, Michigan. The illustrations at right and below show FIRITE STOKERS in operation at this plant, where they have been giving superior performance.

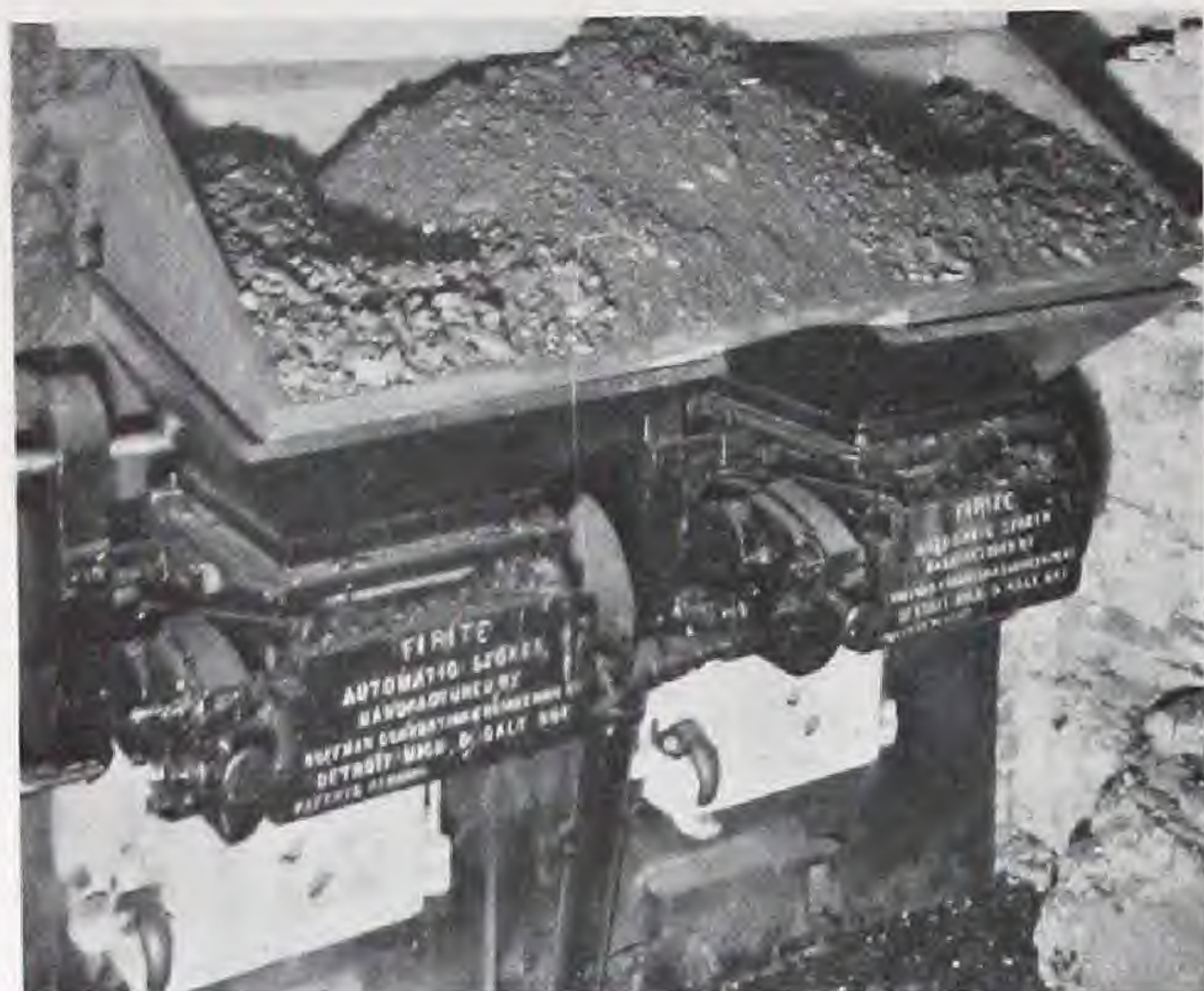


FIRITE STOKERS are Efficient in Power Plant of BUETLE PICKLE CO.

Another Bay City installation has delivered more than 100 per cent return on the investment necessary to install FIRITE STOKERS, during the first year of their operation. A large increase in steam production was obtained from this installation as well as this unusual economy.



FIRITE STOKERS Operate with Large Coal Savings at TOWEL COMPANY



Another case testifying to the ability of FIRITE STOKERS to burn any kind of hard fuel is found in the installation at the Chicago Towel Company, where FIRITE has made possible the use of local coal at a distinct saving.



MORLEY BROTHERS of Saginaw, Mich., Install FIRITE in Heating Plant



After installation of FIRITE STOKERS, Morley Brothers, hardware firm, found that they could burn local Saginaw Valley coal at the rate of one-half ton per day less than was used prior to the installation.

FIRITE STOKERS *in* Plant of Large Automotive Parts Manufacturer



Three low set return tubular boilers, equipped with FIRITE STOKERS as pictured in the upper right illustration, carry the steam requirements for this large industrial plant with perfect satisfaction.

DETROIT SEAMLESS STEEL TUBES CO. and PHOENIX DIE WORKS *are* **FIRITE USERS**



In the large plant of the Detroit Seamless Steel Tubes Company, one water tube boiler equipped with a FIRITE STOKER furnishes process steam as well as the heating load.

The installation at the Phoenix Die Works is another instance where FIRITE STOKERS furnish steam for process work in unfailing quantity for continuous operation. In this case, production at the Phoenix Die Works was increased one and a half days a week.



Tug **DUROCHER** Operates with Economy with **FIRITE STOKERS**



<small>J. L. DUROCHER</small> <small>W. D. DUROCHER</small> <small>A. C. DUROCHER</small>	T. L. DUROCHER CO. MARINE CONTRACTORS DETROIT, MICHIGAN	<small>ENGINEERING WORK</small> <small>MAINTENANCE</small> <small>REPAIRS</small> <small>PAINTING</small> <small>WELDING</small> <small>CONSTRUCTION</small>
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January 22, 1931.

Hoffman Combustion Engineering Co.,
 410 Ford Building,
 Detroit, Michigan.

Gentlemen:

Referring to your recent letter regarding the performance of your stokers on our new Tug T. L. Durocher, we wish to say that we are more than satisfied with the performance thus far.

The Tug is much more economical to operate, due entirely, we believe, to the efficient performance of the stokers, and we are positive that we are burning much less fuel per rated H.P. than any other vessel on the Great Lakes.

We are very glad to say that we have found savings over the ordinary hand-fired boiler, as follows:

1. The burning of slack coal with its corresponding saving in price.
2. Increased boiler efficiency due to the elimination of opening and closing fire-doors.
3. The decreased amount of ashes resulting in not having to clean the fires frequently. We have made a rule for the firemen to clean one furnace per watch, not because it is necessary, but simply for routine, which means that the fires are cleaned only once in nine hours; whereas with a hand-fired job, it is quite often necessary to clean the fires every two to three hours.
4. Due to the flexibility of control of the stokers, the banked fires during lay time can be reduced to just barely enough fuel to keep the fire burning.

We are enclosing herewith photograph of the new Tug and we will be very glad to recommend the stokers to any interested prospective customer you wish to refer to us.

Thanking you for your many courtesies and the co-operation of your engineers on this installation, we remain,

Very truly yours,
 T. L. DUROCHER CO.
T. L. Durocher

WHD:AP

RECEIVED HOFFMAN COMBUSTION ENGINEERING CO. JAN 23 1931

FIRITE STOKERS, applied to Scotch Marine Boilers in the Tug Durocher, enabled this new tug to operate much more economically than hand fired tugs of equal I.H.P. Slack coal is burned with a large saving in price, boiler efficiency is increased by the elimination of constant door opening for hand firing, and banking losses during lay times are almost totally eliminated.

All of these advantages apply in equal measure to FIRITE STOKERS installed with Scotch boilers on larger vessels as well as stationary installations on land, where FIRITE STOKERS have proven their economical operation and satisfactory performance time and again.

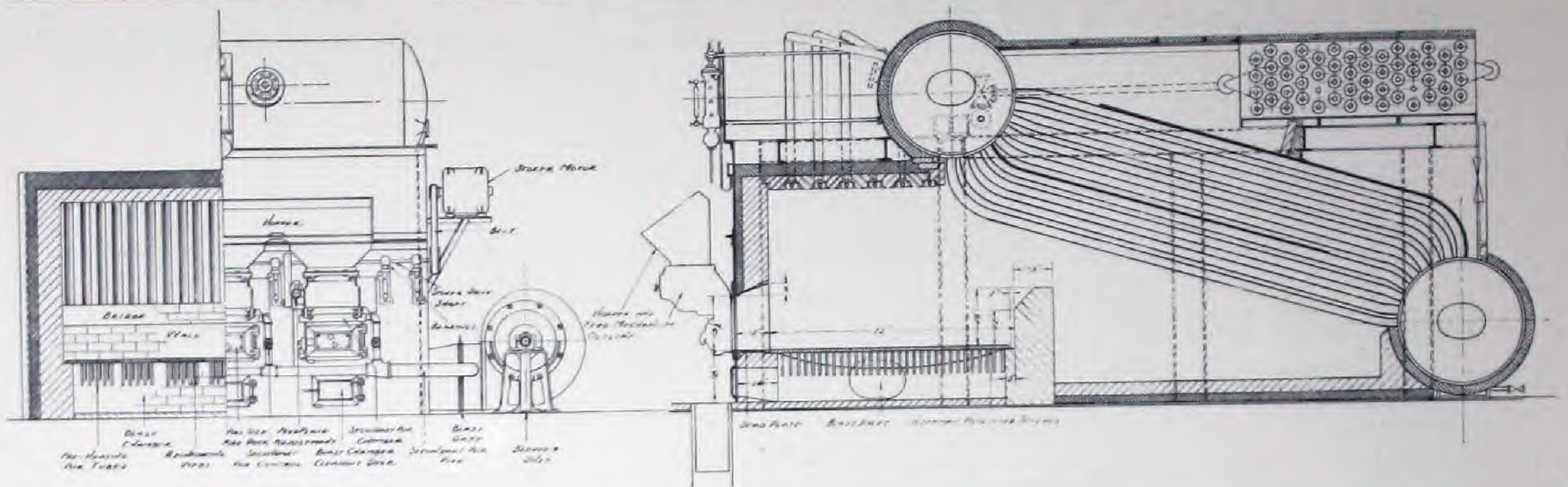
FIRITE STOKERS *are widely* *used on* **DIFFICULT** *applications---*

FIRITE Stokers and Hoffman Combustion Systems are adapted to many other uses besides standard boiler settings, such as:

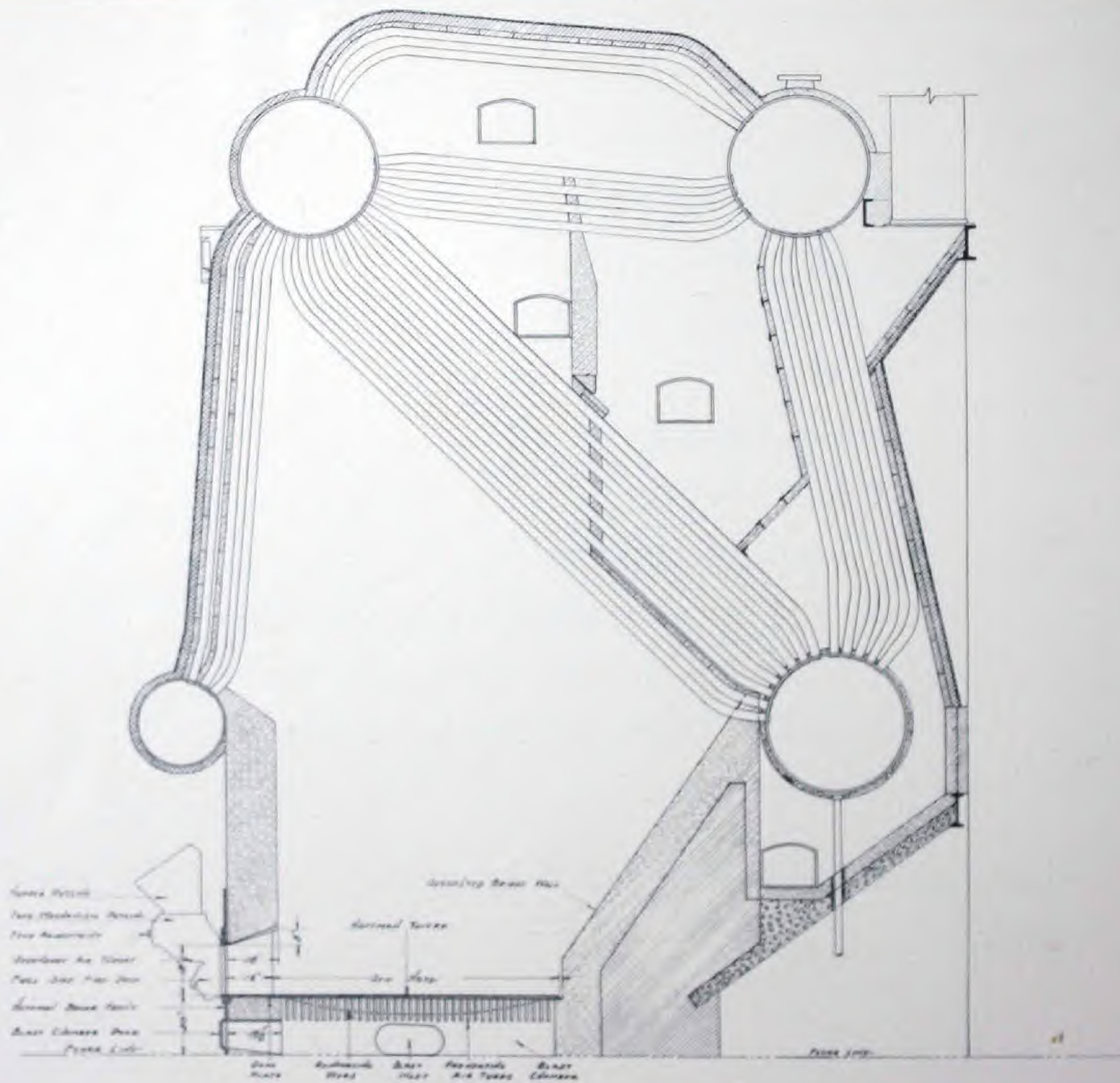
1. Existing low head-room jobs.
2. Plants with under boilered capacity.
3. Scotch marine boilers without the use of dutch ovens.
4. Fire box type boilers
5. Brick set furnaces.
6. Ovens.
7. Calcining kettles.
8. Kilns.
9. Gas benches.
10. River boats.
11. Steam generators.
12. Coal burning ships with water tube boilers, and with internally fired boilers, tugs, dredges, large steam shovels, etc.

Other special applications will be gladly engineered upon request.

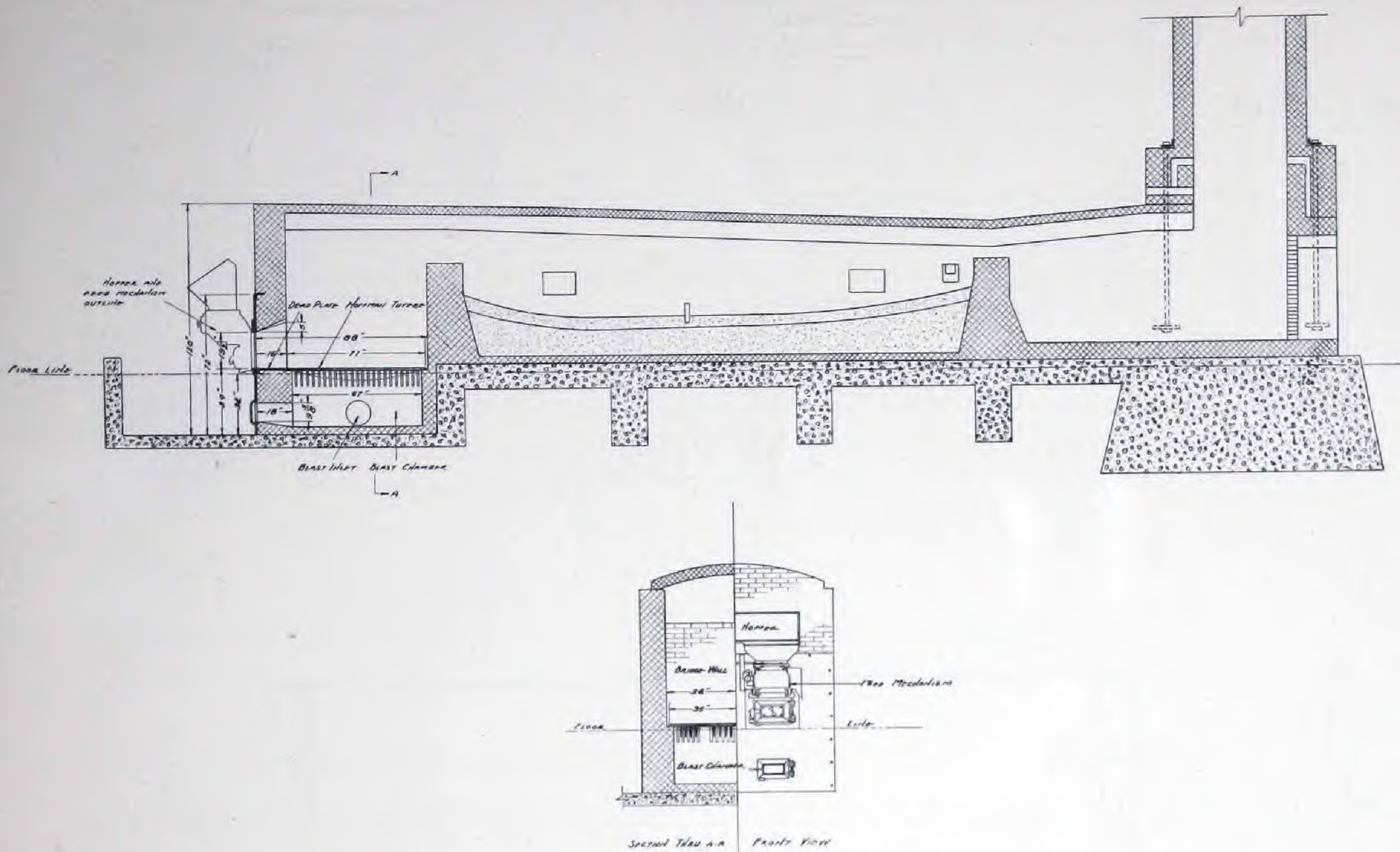
APPLICATION TO RIVER BOAT BOILER



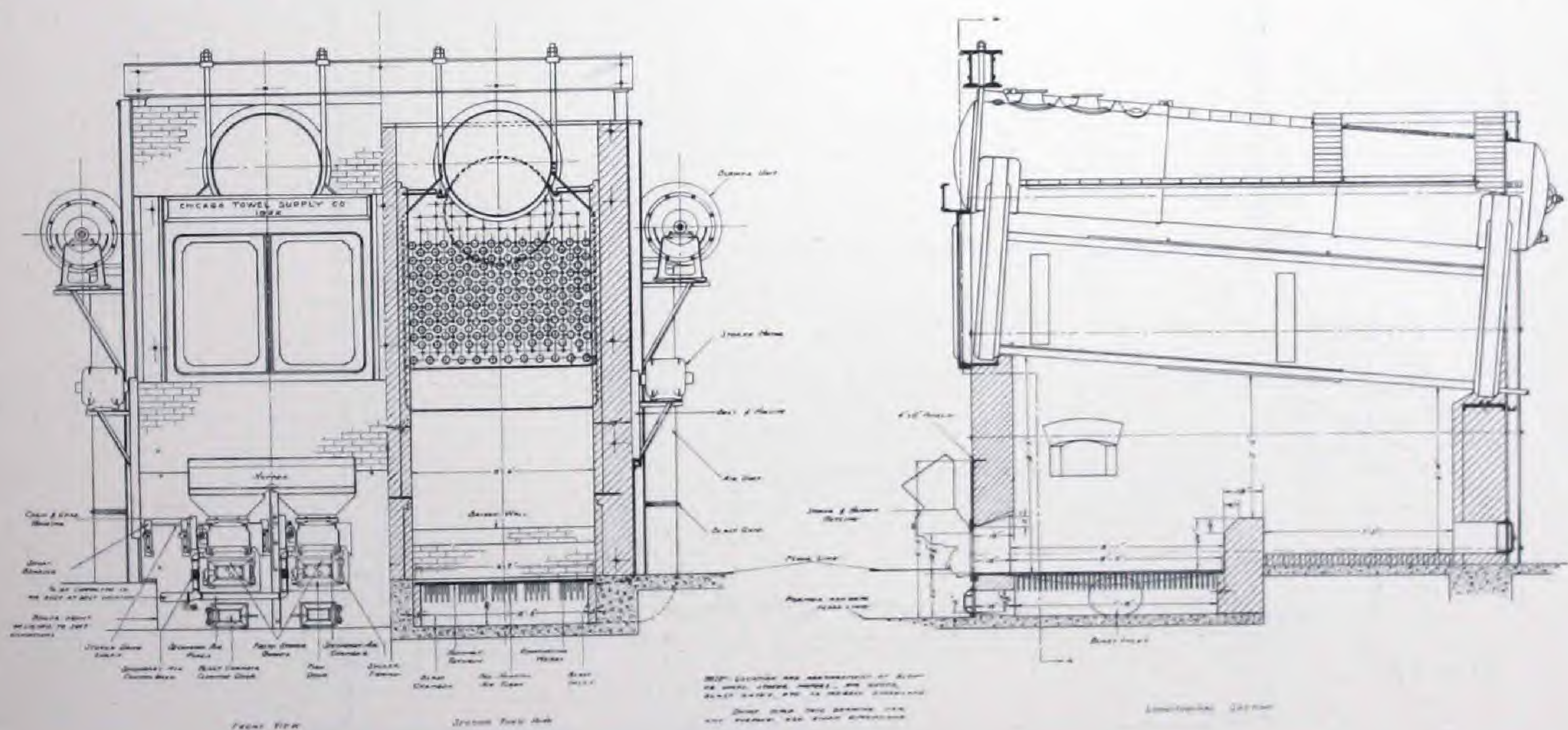
TYPICAL BENT TUBE APPLICATION



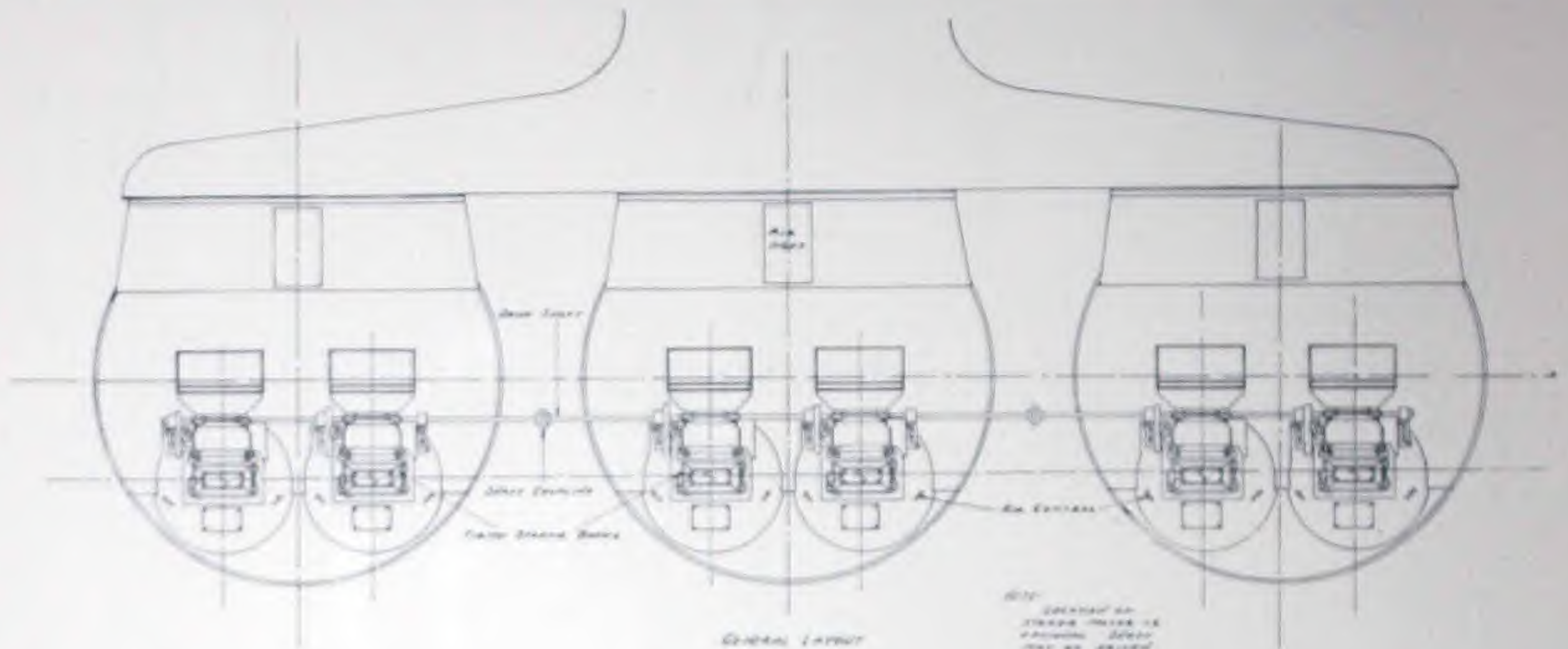
APPLICATION TO MELTING FURNACE



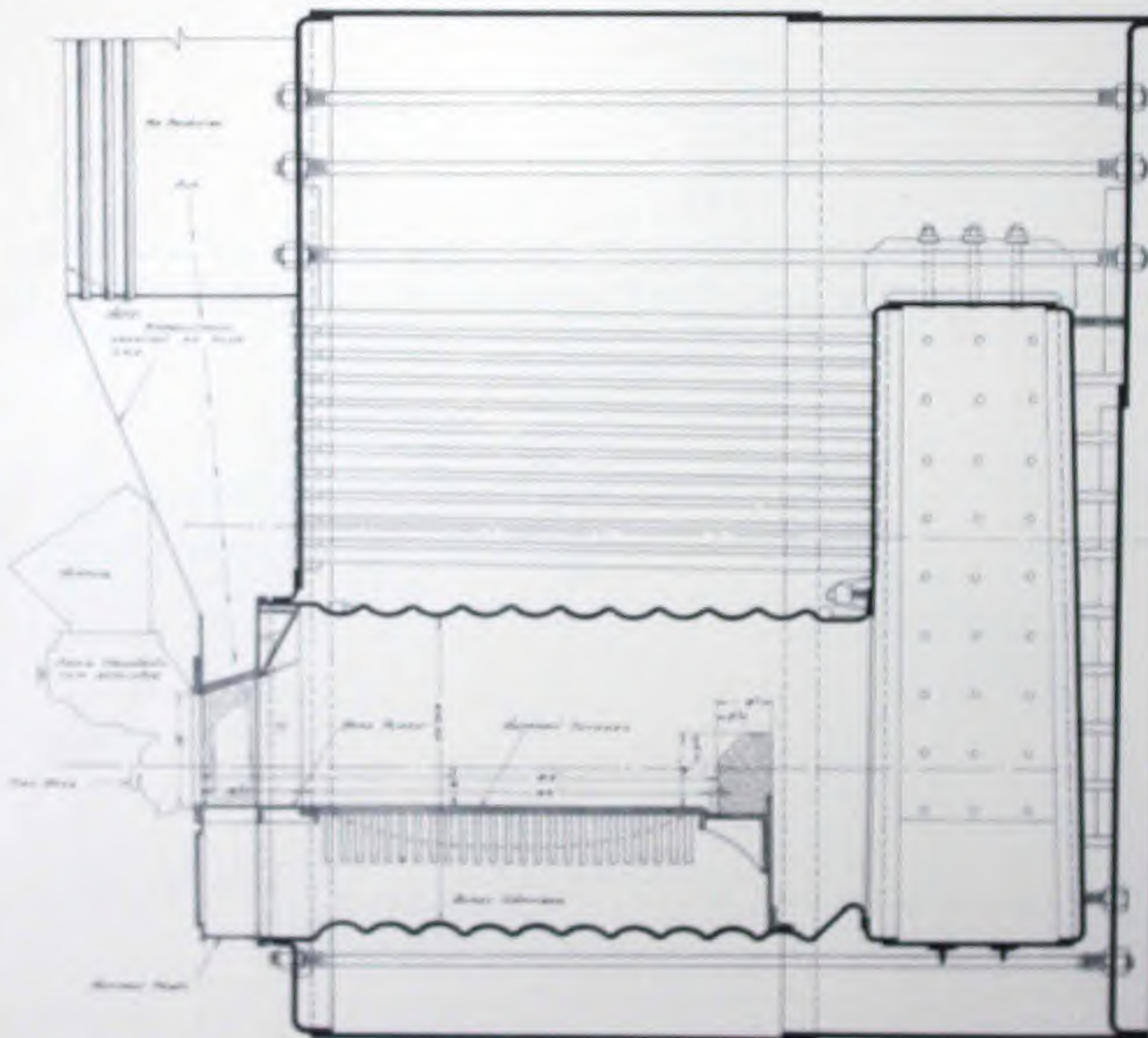
APPLICATION TO HORIZONTALLY BAFFLED WATER TUBE



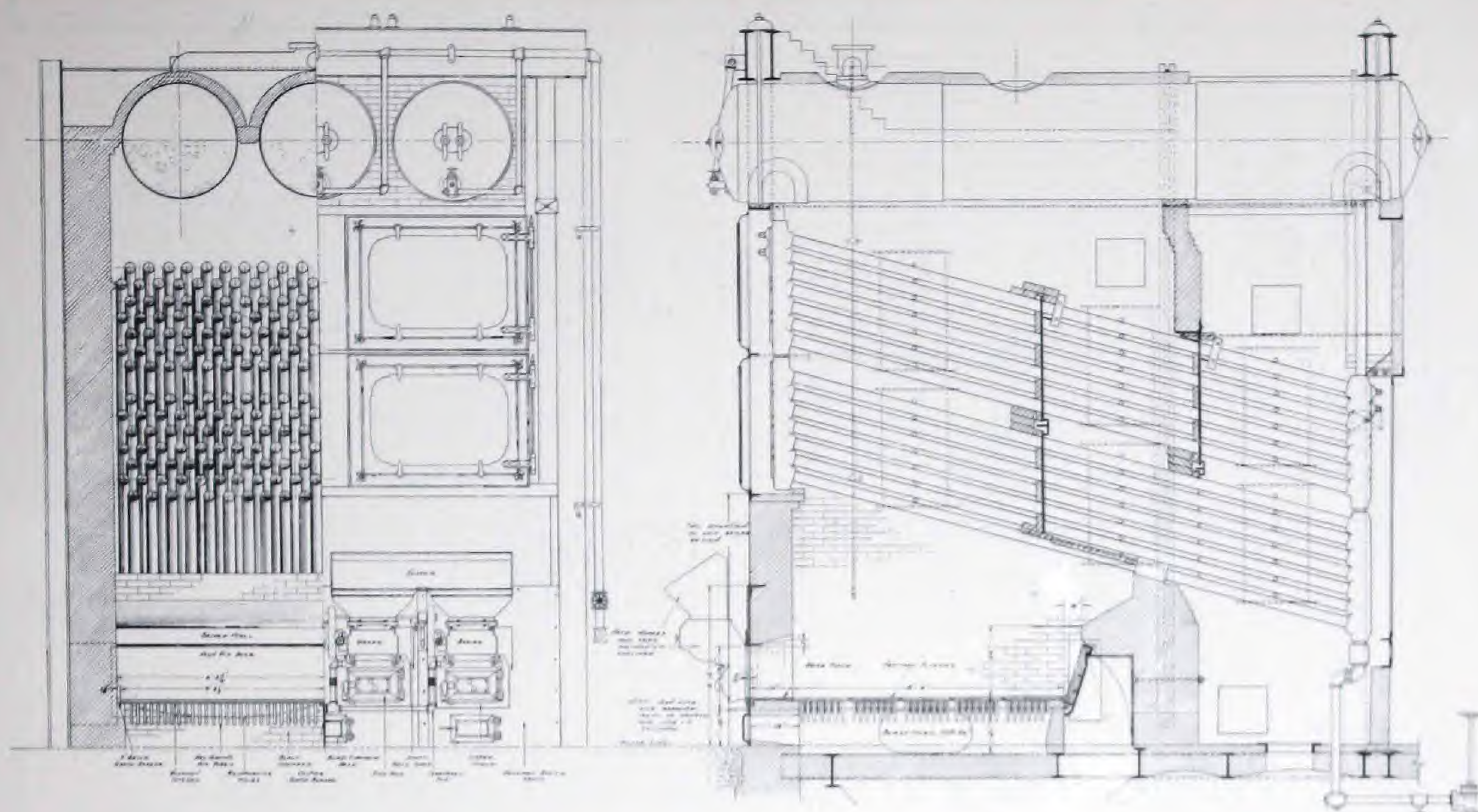
TYPICAL BATTERY INSTALLATION TO TWO-FURNACE SCOTCH MARINE BOILERS USING PRE-HEATED AIR



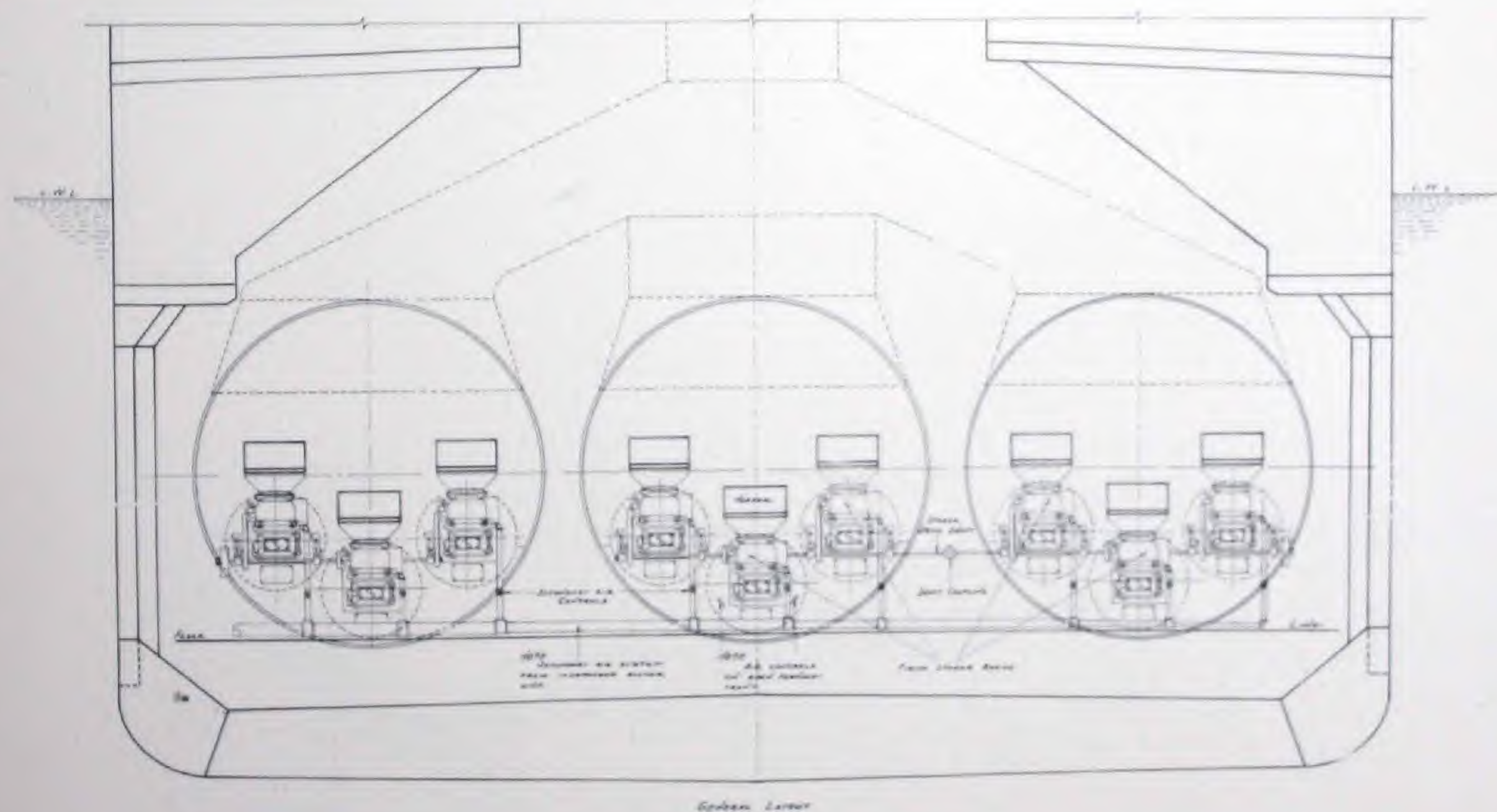
NOTE: GENERAL LAYOUT OF BATTERY INSTALLATION IS SHOWN HEREIN. SPECIFIC DETAILS OF BATTERY INSTALLATION ARE TO BE DETERMINED BY THE USER.



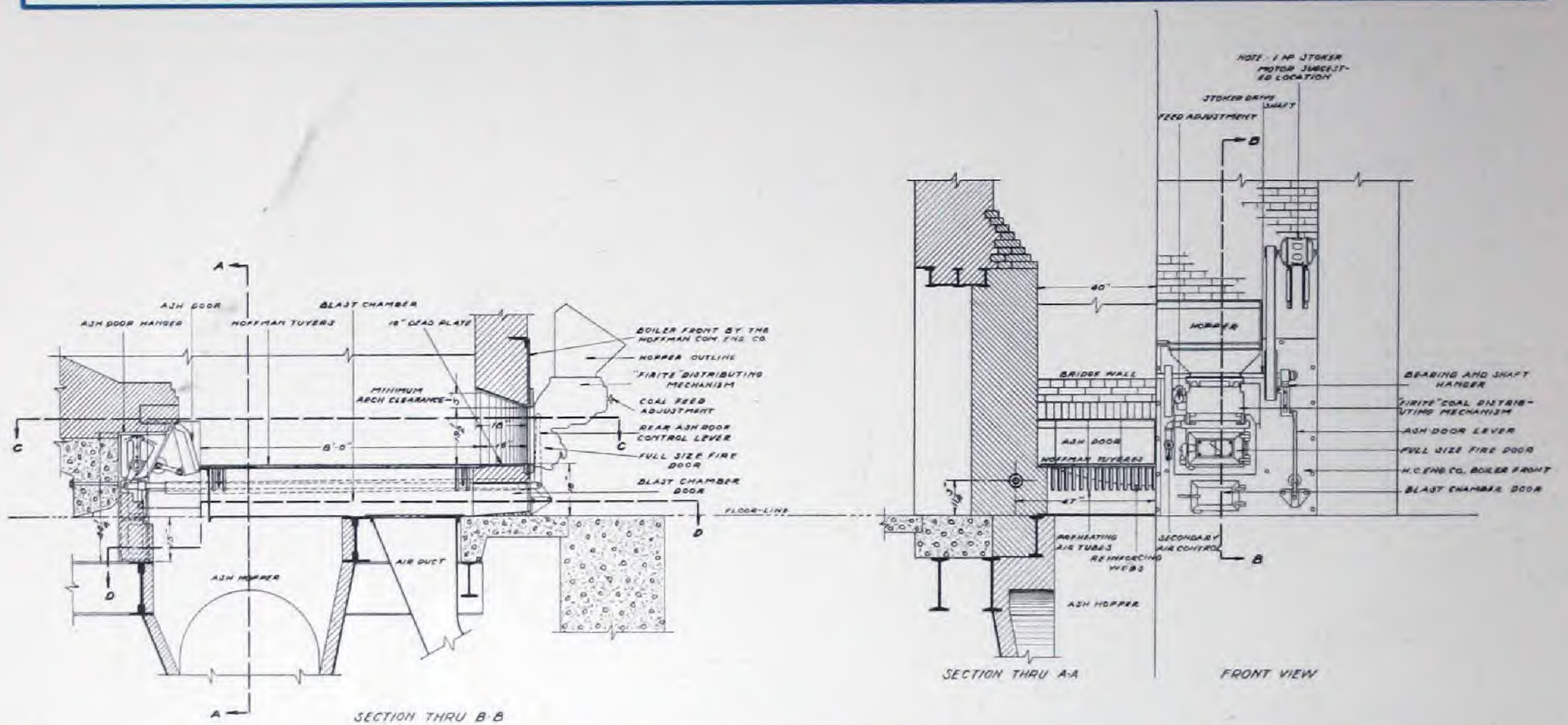
APPLICATION TO HORIZONTAL DRUM WATER TUBE



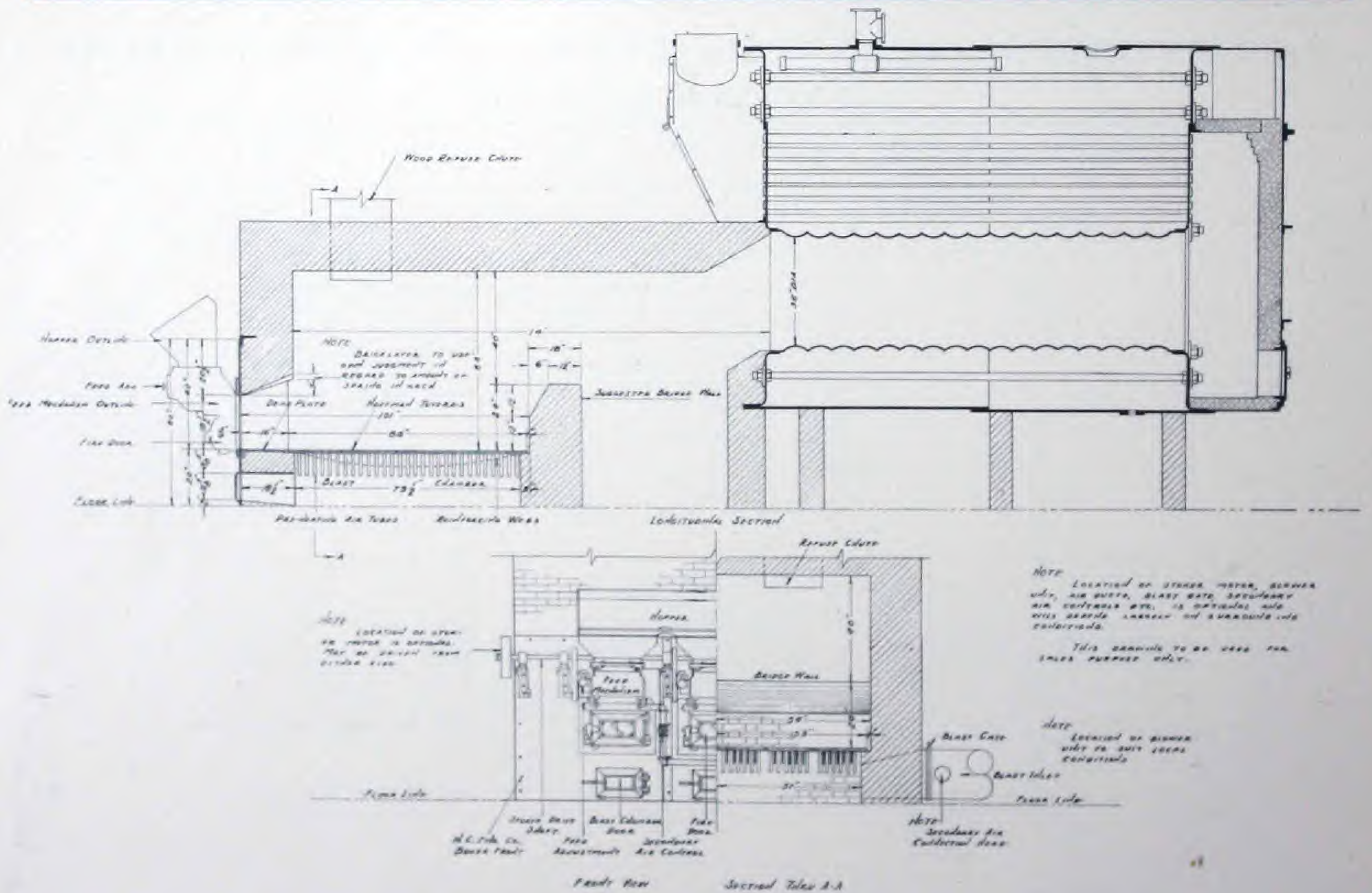
BATTERY INSTALLATION IN THREE-FURNACE SCOTCH MARINE BOILERS USING PRE-HEATED AIR



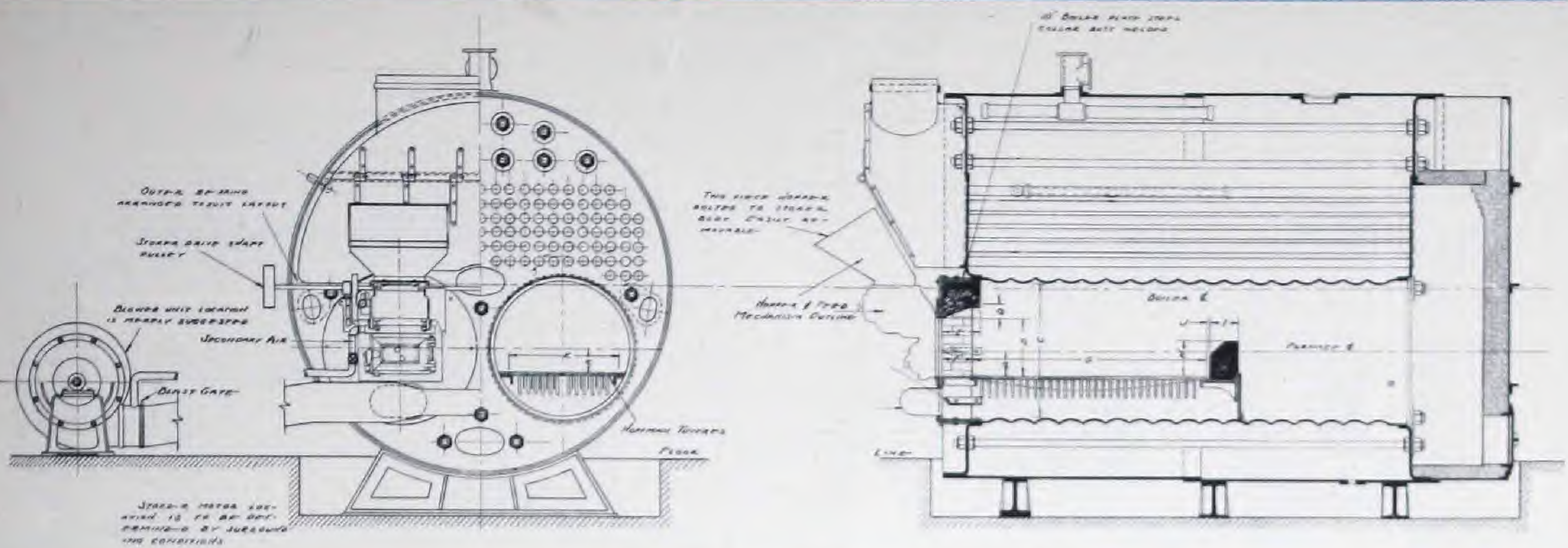
APPLICATION TO FURNACE UNDER TUNNEL KILN SHOWING REAR DUMP ASSEMBLY



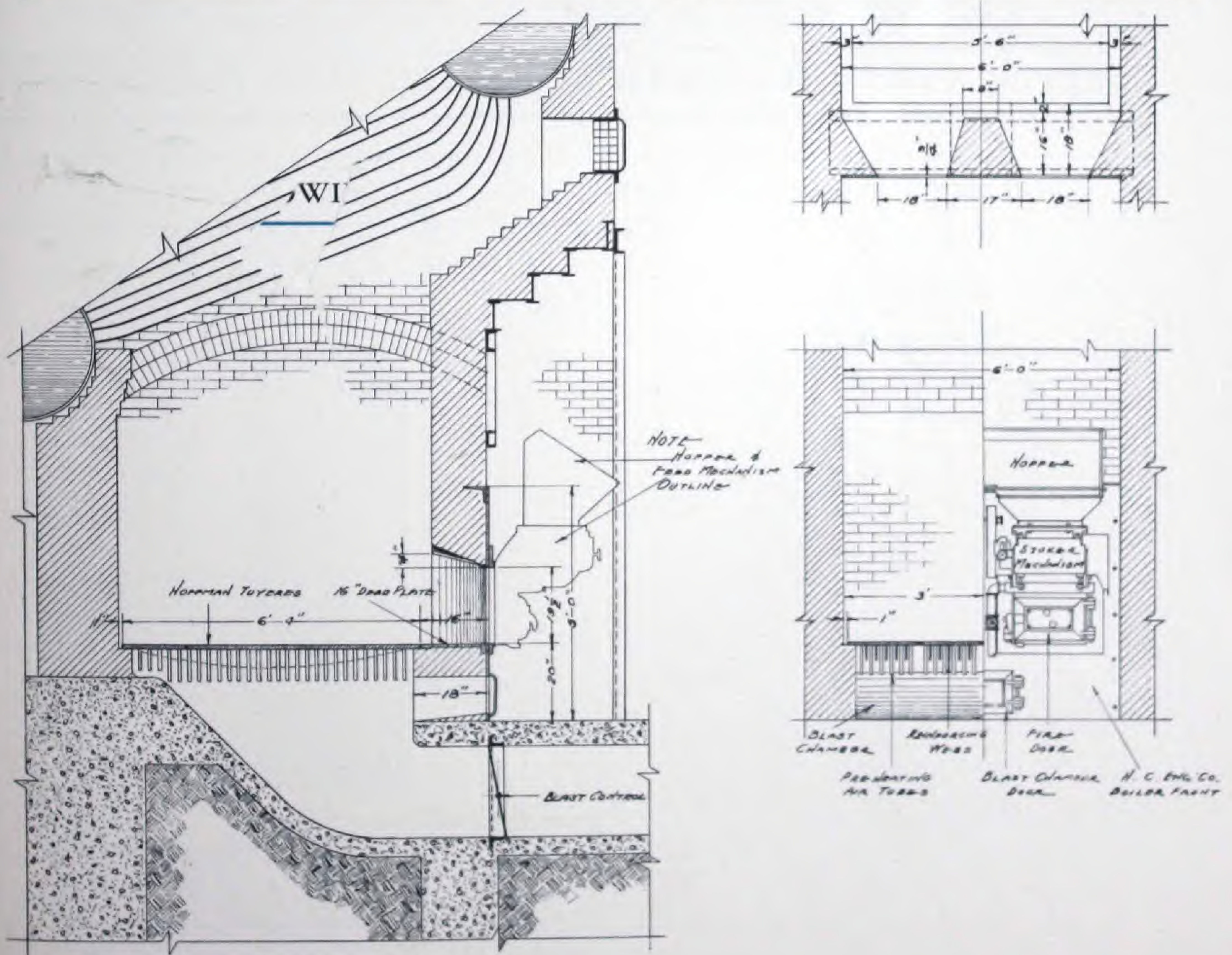
APPLICATION TO SPECIAL REFUSE BURNER



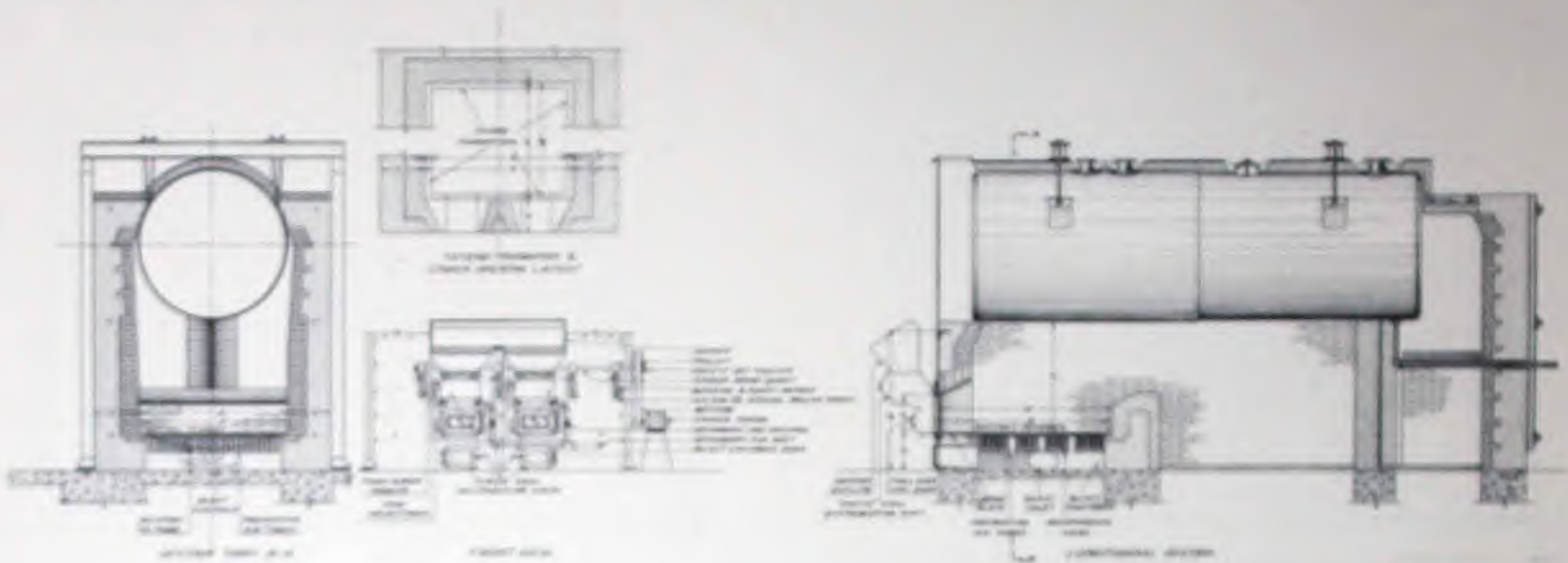
APPLICATION TO A TWO-FURNACE DRYBACK SCOTCH MARINE BOILER



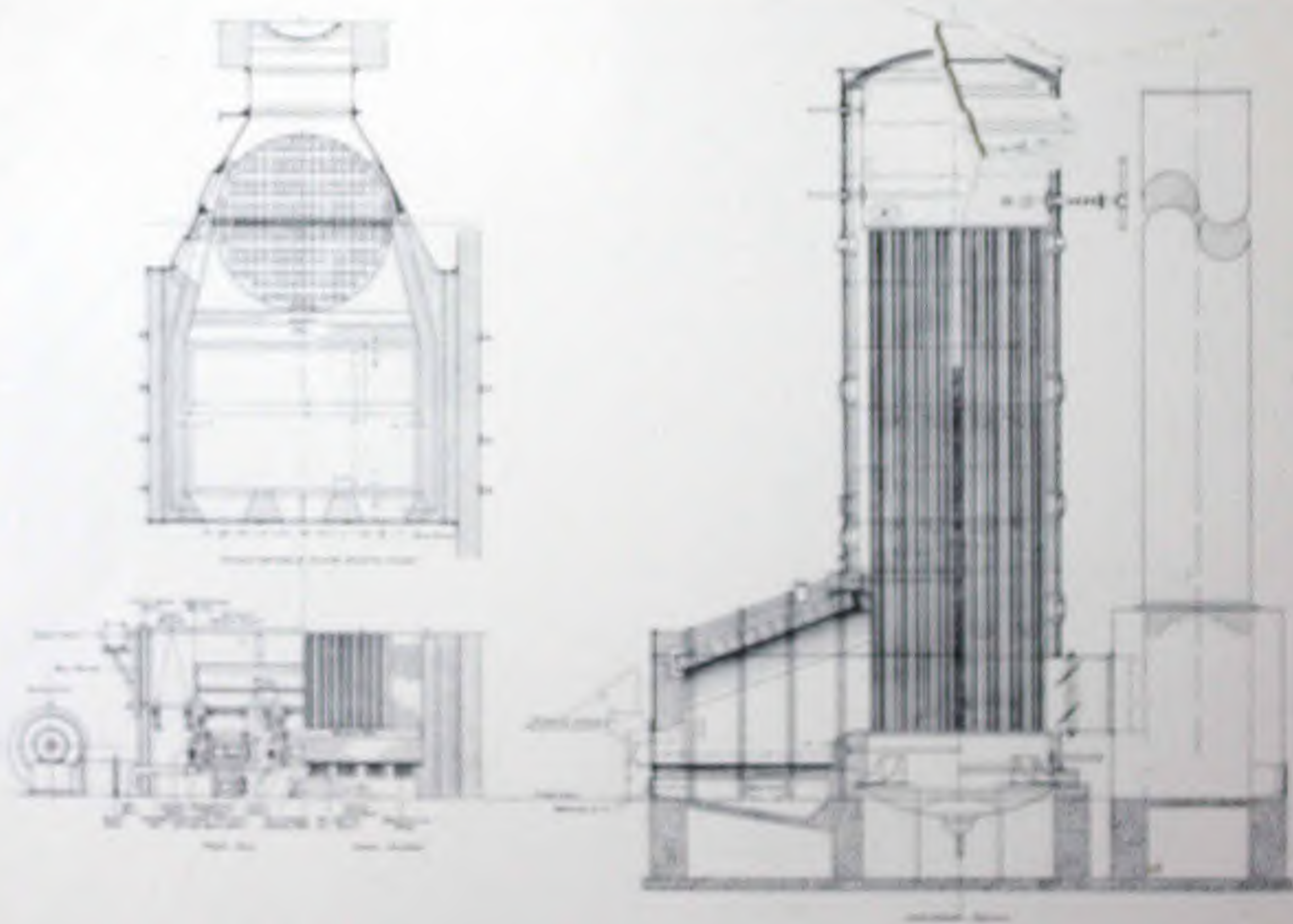
APPLICATION TO A BENT TUBE BOILER



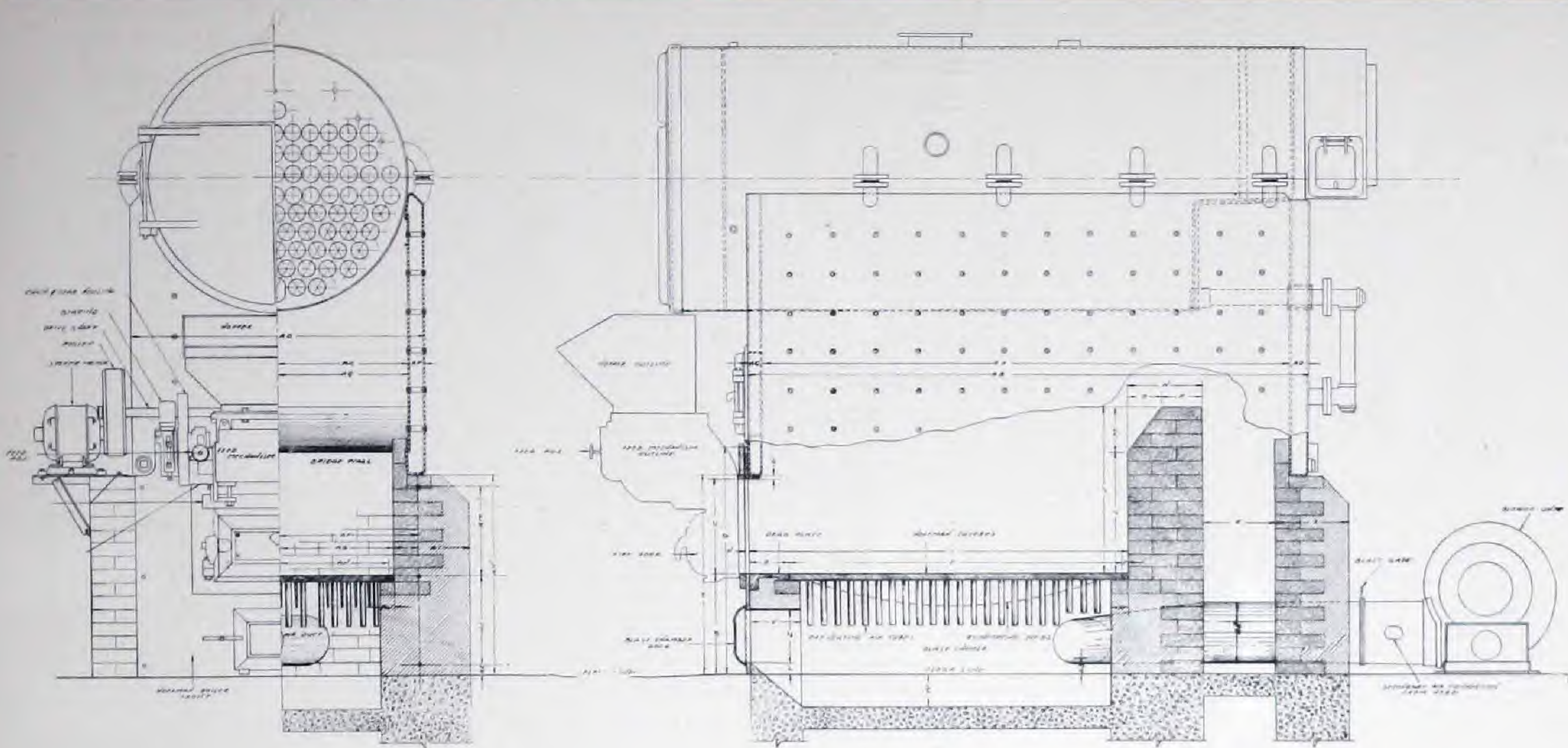
FIRITE STOKER APPLIED TO H. R. T. BOILER



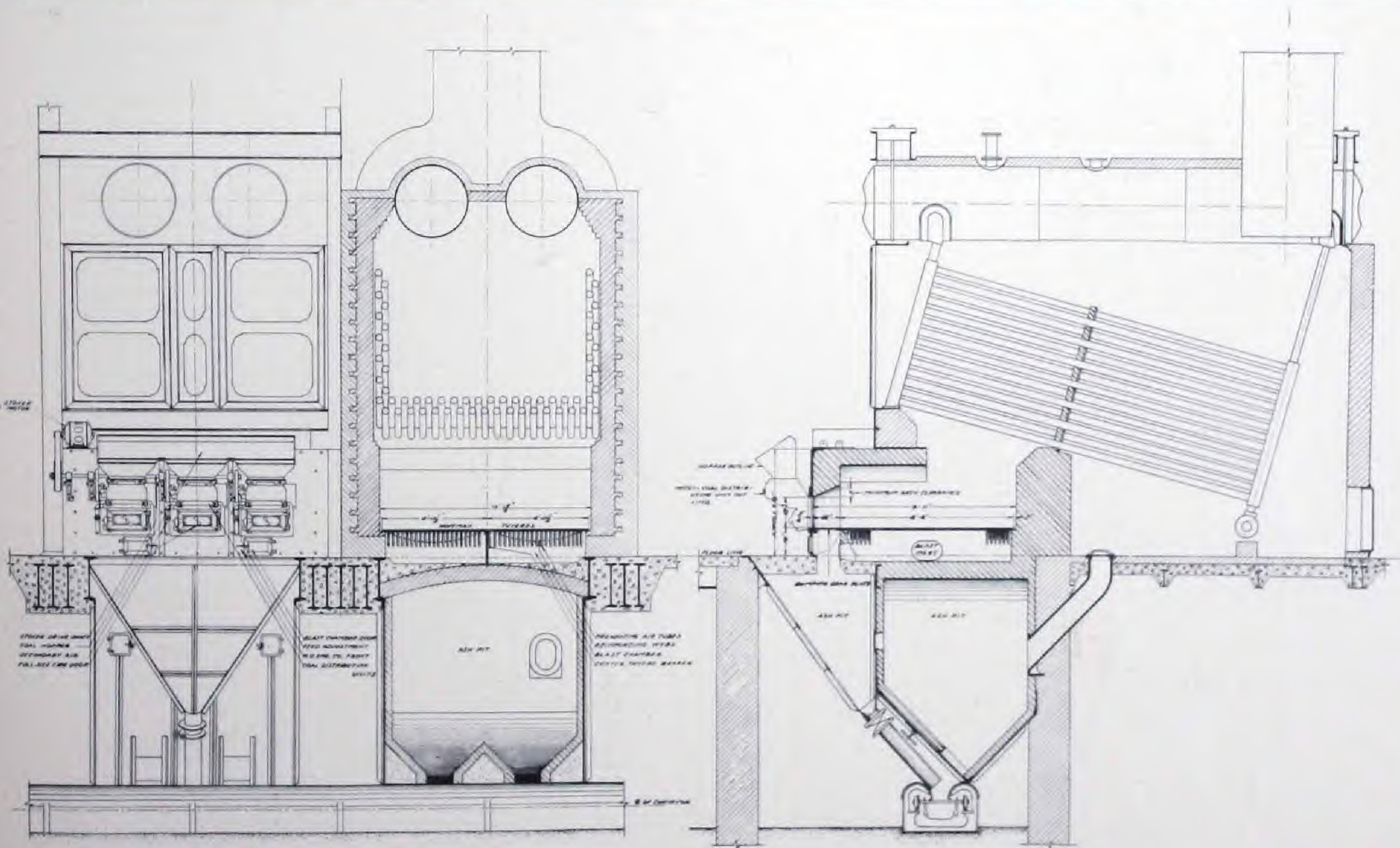
APPLICATION TO VERTICAL WATER TUBE BOILER



APPLICATION TO STEEL FIRE BOX TYPE



LAYOUT SHOWING ASH PIT AND FRONT DUMPING DEAD PLATE



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